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The Lasso Relations Tool

Each ITAPS interface encapsulates functionality that "belongs" together, for example mesh or geometric model functionality. In some cases, however, data in several of these interfaces need to be related together. For example, a collection of mesh faces should be related to the geometric model face which they discretize. The ITAPS Relations interface iRel accomplishes this in a way which allows the lower-level interfaces to remain independent.

iRel defines relations as pairwise associations between entities or entity sets. Related entities can be in the same or different interfaces. A given relation is created for a given pair of interfaces and returned in the form of a *Relation Handle*. After a specific relation pair has been created, concrete relations for that pair can be assigned and retrieved for specific entities using set and get functions on the iRel interface. A given interface instance can appear in one or many relation pairs, each identified by the relation handle.

The Lasso tool implements the iRel interface, working through the other ITAPS interfaces. Lasso can recover the associations between mesh and geometric model entities those mesh elements discretize. Lasso currently works with geometry and mesh read into the [CGM](#) and [MOAB](#) components from ".cub" save/restore files written by the [CUBIT](#) mesh generation toolkit.

Lasso is maintained in a world-readable svn repository, located at <https://svn.mcs.anl.gov/repos/ITAPS/Lasso/trunk>. If you would like to participate in the development of Lasso, contact Tim Tautges for getting write access to the Lasso repository.

Downloads

If you use Lasso, please be kind enough to send us a note about how you're using it, to tautges_at_mcs.anl.gov. Feel free to send any bug reports and suggested improvements there too!

Nightlies

[Trunk](#)

Nightly builds from Lasso's trunk (working again!)

Source

- [Subversion repository](#)
- [Trunk](#)

Other

- Nightly shared builds of CGM, MOAB, Lasso and PyTAPS are available for use on gnep.mcs.anl.gov in `/disk/itaps-buildslave/packages/`.
- [PyTAPS](#), a Python implementation of iRel that can be used with Lasso.

Documentation

Building

Building Lasso

How to build Lasso from scratch, with dependencies, on other platforms, etc.

Installing PyTAPS

How to install PyTAPS and configure Lasso (and other libraries) for use with PyTAPS

Tutorials/Guides?

FAQ

Frequently Asked Questions about Lasso